Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

What is your title for this picture?

10 Cash awards will be given for the best.

(See inside back cover for details)

WHAT *Mother* REALLY WANTS

MORE THAN A MERE REMEMBRANCE

the Gift of

HEALTH • HAPPINESS • FREEDOM

Talk of *sentiment* in gifts — what could be more profoundly thoughtful than delivering Mother from the bondage of the cook-stove? A beautifully modern Hotpoint Automatic Electric Range brings a new order of cooking freedom, health and happiness.

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ELECTRIC RANGES **Hotpoint** **WATER HEATERS**

December, 1934
Vol. 7 No. 12

Electricity on the Farm

IN THIS ISSUE

Oh Say Can You See?

BY ANDREW APPLEBY

Lights are just lights to some folk because they never really stop to consider their intensity or placement. But why overtax the eyes when the proper size bulb located as it should be for a specified use eliminates eye strain. The whole family can benefit from proper lights, and this is the idea which the author endeavors to present to you on page 4.

A Word to the Wives on Running the Range Right

BY VERA B. MEACHAM

If working hours in the kitchen are overcrowded and some extra time is desired for other duties or recreation, try cooking with the electric range. The author on page 7 tells you how to achieve this desired time as well as what should be done to operate an electric range on an economical basis.

Experiences of a Practical Fruit Grower

BY MEREDITH P. REED

Electricity plays an important role on the Reed farm in the production and marketing of apples. Spraying, washing, grading and preservation of the fruit are a few of the operations accomplished with less labor through the use of electricity. On page 10 the author's story concerning this electrified fruit farm will be found.

Raising Turkeys With the Aid of Electricity

BY D. W. RICE

Mr. White, a poultryman near Canonsburg, Pa., has been employing electric battery brooders and ultra-violet lamps for the raising of young turkeys. He has reduced considerably the mortality among the young birds during the critical period of their growth. The author outlines the procedure followed by Mr. White on page 12.

Regular Monthly Features

Electrical Housekeeping, page 15; On the Air, page 16; What's New, page 17; Questions and Answers, page 18.

EDITORIAL

Light and Sight

BECAUSE little light is required around farm buildings for doing chores, many farm houses suffer from inadequate and unsatisfactory lighting installations. For barn lights ofttimes seem to be taken as a model when laying out the household lighting facilities.

There is a vast difference between the requirements of home and out-building lighting. Inside lights are used for close, trying work such as reading and needle work; outbuilding lights are not called upon for more than moderate illumination.

For that reason, inside lights in the home must be so designed as to give the best of illumination and to direct it right at the points where it is needed. Only in this manner can eye-strain be prevented and eyesight be preserved.

Suitable lamps especially adapted to various purposes are now provided by manufacturers. Their use pays big dividends in the preservation of eyesight and the prevention of ailments associated with eye-strain.

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Lights give a cheery appearance to the farm after nightfall.

OH SAY CAN YOU SEE?

By ANDREW APPLEBY

PERHAPS you do not know the Burns family, but you certainly know people very much like them in your own community. They live on a fertile 120-acre farm in northern Illinois. The buildings are not new; Pat's grandfather built the sturdy brick house fully fifty years ago,—but it has always been kept comfortable and attractive by good care and wise investment in things that make for easier living.

They have had electricity on the farm so long that the younger children have never known kerosene lamps, and the older ones have quite forgotten that they ever did.

Mrs. Burns used to teach the school half a mile down the road right where her two younger children go now. Both she and Mr. Burns are active and popular in community affairs, and both are careful readers of magazines that bring them the results of scientific study and practical suggestions about their jobs, farming and home making.

As her husband says, "You can't fool Ann on a vitamine. She almost counts our calories, and she plans our meals for a balance of protein, carbohydrates, and minerals almost as carefully as I plan the rations for the hogs."

But you can see that he is proud of her, even when he pokes fun at her. And his jesting shows you how well Mrs. Burns takes care of her family.

A Cheery Welcome at the Burns Farm

Late one afternoon in the early part of November, I went out to the Burns farm with a lighting adviser from the local public service company. When we got to the door, the children let us in, but Mrs. Burns called a cheery welcome from the living room where she was sewing.

"I'd like to measure the light you are using for that job," said Jim almost as soon as we got into the room.

"Measure the light?" Mrs. Burns looked at him in surprise. "How can you do that? And what for?"

"I'll do it with this sight meter," said Jim holding out to her a little black object some four or five inches long.

In case you haven't seen one yourself, it is an oblong block with rounded ends. There are two circular openings in the top; one exposes a disc that is sensitive to light; the other shows a dial with a scale from 0-50. When light falls on the disc, the pointer indicates it on the scale. Thus you can measure the exact amount of light you have on whatever work you may be doing. Above the scale are printed recommendations for the amount you should have for different kinds of work.

Mrs. Burns took the meter in her hands and looked at it curiously. Mr. Burns, who had just come in from the barn, stuck his head in the door to say hello, and seeing that some thing was going on, came in to look over the heads of the children who were crowding around their mother saying,

"Let me see. Let me see, too, mother."

"If you will put it down in your lap," suggested Jim.

Mrs. Burns let the meter rest on her work.

"The needle is on five," she said. "Five what?"

"The scale on the dial is marked in footcandles," Jim told her. "A footcandle is the unit for measuring and comparing light. Just think of the light shining on something one foot from a candle. Twice as much light would be 2 footcandles and so on. Bright sunshine measures as much as 10,000 footcandles. Under a tree or on a porch, the amount of light will be cut down to a thousand or perhaps 500 footcandles. And if you sit down indoors, close to a window, you may get 100 or 200 to read by."

But Mrs. Burns was sewing black buttons on a dark blue blouse in a light that measured just 5.

Does it matter, do you ask?

Well,—yes. It does.

Folks who have been delving into this science

of seeing say that no other single human activity consumes so much energy as seeing. Our eyes are as they are; our work, whatever it is, has to be done day after day; but the thing that makes the work visible at all is the light that falls on it. Light is a big part of seeing and it is a matter entirely within our control.

Perhaps Mrs. Burns had to sew black buttons on a dark blue blouse with black thread late that November afternoon. Probably Tommy was going to wear that blouse to school next day. If she did, she would certainly be wise to make the job as easy for herself as she could.

Dark Shade Linings Absorb Light

Jim showed her how. First he took the 40 watt bulb out of the lamp behind her chair and put in 60 watts. Then he slipped a white paper lining inside the dull rust colored silk shade. Dark linings absorb a great deal of light. Next he moved the lamp around so the light was only about two feet from her work and fell directly on it.

"Let's look at the meter again," he said. "20 footcandles. That's better, but it is still not enough light for this dark work. This 75 watt bulb would be still better."

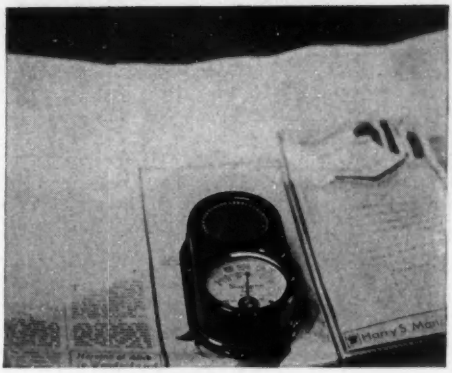
With further adjustment of the lamp, the pointing finger ran up to 26.

"This is not just an idea of my own," said Jim. "This amount of light is the recommendation of the illuminating engineers who have been giving years of study to the science of seeing. They do not pretend it to be the best you can have; we can't get the equal of sunlight into our houses,—not yet. And of course human eyes have been used to depending on sunlight for their seeing until a comparatively few centuries ago; we've made a big change trying to work with light at night. Perhaps the engineers cannot yet tell us what is the best, but at least they can point out to us the limits below which we should not go."

Mrs. Burns looked at her work thoughtfully.

"I could see all right before, but it is certainly easier to sew this way."

"That's just the very point," broke in Jim eagerly. "Being *able* to see is not enough! We should make it *easy* to see. We do not willingly overwork any other part of our body. We ought not to do it to our eyes just because they adjust themselves so readily to a great variety of conditions without any complaint."



The sight meter measures light as a thermometer measures temperature.

"See, Mum, over here it's 10" Tommy broke in.

We all turned to the table where the child was hanging over the sight meter he had set carefully on an open page of his geography.

"Sit down, sonny," said Jim. The child slipped into his chair and looked up at this friend. "Bunny, you come, too and show me where you sit to do your home work."

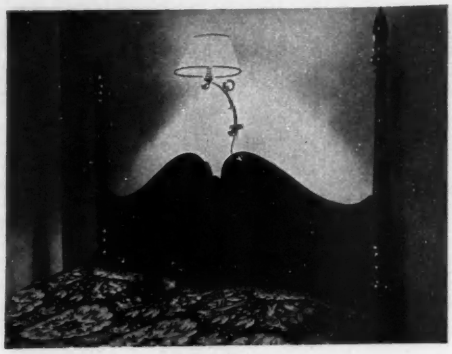
The shy little ten year old sat down across the table from Tommy.

Jim moved the meter about a little.

"You can't get more than 10 or 11 anywhere. That isn't enough light for these young eyes. Children's eyes grow and develop just as their bodies do, and they need plenty of light for close work at this age. More than that, this shade is so high that when the children look up they stare right at that bare bulb.

"There is a new lamp on the market that has

A perfect study lamp for Sally.



Good light for comfortable reading in bed.

been designed for students—of all ages." He smiled down at the children. "It gives both direct and indirect light. I wish you'd drop into the office and see it some time when you are in town. It gives enough light; it shades that light so you do not see the bulb, and it cuts down all the glare with a glass bowl around the bulb. I suspect that these youngsters are getting a glare on the pages of their books as well as in their eyes. Yes, look here."

He had pulled out a tiny mirror and laid it on the page. The bulb was reflected plainly in the mirror. "That is a simple test I learned at lighting schools," he explained. "You can move the books or the lamp to cut that off."

Glare is quite as bad as gloom in any lighting. Doing away with it is the real reason for lamp shades though the women may think they are buying them for decoration. They should be beautiful, but their first duty is to enclose the lamp so that bare bulbs cannot shine in our eyes.

If you do not think that is important, try this little experiment,—just once. Look directly at a 60 or 75 watt bulb for 15 or 20 seconds,—and then go on reading by its light,—if you can. When you get over the effect, remember that whatever we are looking at, our eyes frequently shift away from it and must rapidly readjust themselves for any glaring light that strikes them.

That is the reason sharp contrasts in the lighting of a room are not good. Small lamps with close fitting opaque reflectors sometimes concentrate the light in one bright spot on our work or paper and leave the rest of the room practically in darkness. Every time we raise our eyes they must adapt themselves to the dark surroundings and then reverse that action when we look at our work again. It is better to let some light escape from the shade to give the room at least 10% as much light as you use for reading or sewing.

"This living room is beautifully lighted for friendly visiting," said Jim. "But working with your eyes is another story."

"The rest of the house is probably just as bad," said Mrs. Burns. "Are there any rules to go by?"

"I'll be glad to check over your lighting right now," said Jim. "And I can give you some general recommendations. Let's begin in the kitchen."

Mr. Burns looked at me as his wife and Jim went through the doorway with the children at their heels.

"We're off again," he chuckled. "That woman'll never rest till she's got footcandles settled. She is that way. Since he's here, I guess I'll take Jim out to my work shop to look at that before he gets away." And with a muttered apology he hurried after them.

General Recommendations for Lighting

Different eyes prefer different amounts of light for the greatest ease and speed and accuracy of seeing. But the general recommendations that Jim had for Mrs. Burns are about as follows:

For ordinary work about the house, work that does not require close attention to fine details, 5-footcandles will do. For reading good print in a book or sewing on light goods, you need more than 10. And for reading a newspaper or any fine print, for sewing on dark goods or doing any other close work do not be satisfied with less than 20

(*Continued on page* 18)

Good lighting dispels gloom, making the living room a place of enjoyment for the entire family.

A Word to the Wives on

RUNNING THE RANGE RIGHT

By VERA B. MEACHAM

WHEN you start cooking with electricity, you cannot avoid having some extra time on your hands. There is all the time you used to spend building and tending fires, emptying ashes, and cleaning the stove. A fuel that burns without flame, and vanishes without leaving a trace in the stove or on the walls and wood work, makes less cleaning elsewhere, too. That time and that work are saved as soon as you put an electric range in your kitchen.

You have done with knee action ovens, and tempermental fires. You are going to buy just the amount of fuel you need to cook your meals, and it will be delivered instantly whenever you want it, in just the amounts you need, day by day. You have brought new safety into your kitchen for you and all your household, for electricity has no flame to catch a careless sleeve, takes no matches that may tempt curious little fingers, and its heat, always under careful and accurate control, is confined to the burners or shut up in a thickly insulated oven.

Mrs. Rebecca M. Finley, of North Wilkesboro, N. C. is eighty-three years old, but she still keeps her hand on the business of running her household, and she finds that cooking with electricity is a big help in doing it.

Last summer I saw this interesting letter from her, a letter she was willing to let me share with you.

"I wish to express to you my appreciation of electric cookery," she wrote.

"I am eighty-three years of age, weigh near 300 pounds. I do my own housework and the cooking for four persons. I do all my cooking on the electric range, which is the easiest and best way I have ever tried to cook. Without my range and my electric refrigerator, I couldn't possibly accomplish what I do in my home.

Mrs. Rebecca Finley

"I would advise all home makers to cook by electricity, thereby having better food and eliminating drudgery.

"My refrigerator keeps my food just right, it saves the food, and saves my steps."

An easy way,—the best way, says Mrs. Finley.

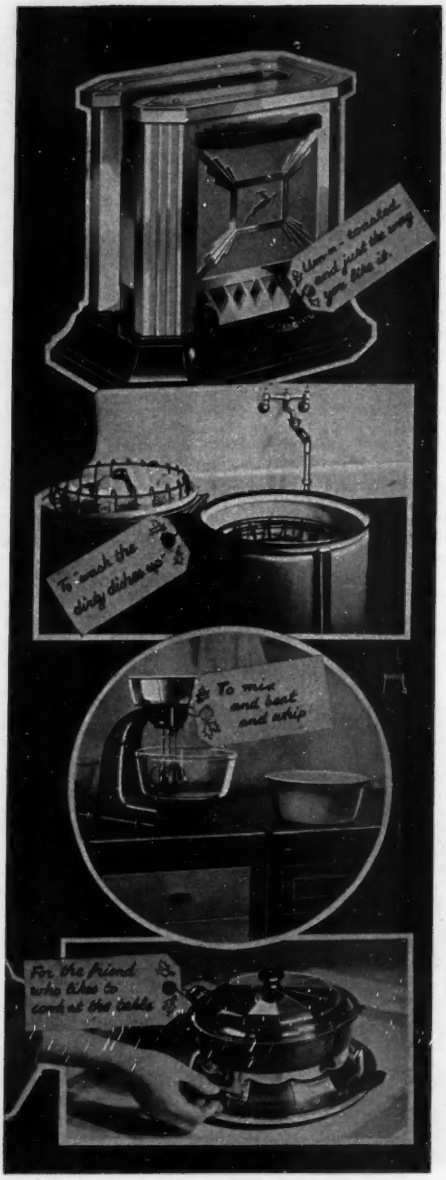
Some women, like another reader of ours, Mrs. E. L. Hinnen of Potwin, Kansas, lay particular emphasis on the fact that the fire in the range will mind itself, and they can get dinner and darn a pile of stockings at the same time. Mrs. Hinnen puts the matter in a nutshell in this note about her range.

"I appreciate my electric range very much and I especially like the oven. Accurate temperature control gives automatic regulation without any attention. I prepare entire meals in the oven and find it very economical. My electric range also

(*Continued on page* 13)

Mrs. Fred Strawback, Kokomo, Ind., can put the rest of her dinner in with the roast and make full use of her oven. Notice the excellent pan on the front burner. Flat bottomed, straight sided, with a tight fitting cover, it is ideally designed for use on an electric range.

Greetings.



A CHRISTMAS season in which pure sentiment is the ruling guide can be a happy one for a day or a week, but when sentiment is mixed with practical thoughtfulness, the joy of the holiday period can be made to extend throughout the whole year. There are many useful things that are suitable for Christmas gifts, but if you consider the elements of comfort, convenience and time-saving, electrical appliances possess undeniable advantages.

Take dish-washing for example, an electrical dishwasher not only banishes one of the age-old bugbears of housework but it saves precious time. A saving of as little as one-half hour a day amounts to 182 hours a year or more than seven full days, and time is the essence of life itself. A saving of a week means literally a week added to our span of life. The elimination of drudgery means happier days while we live.

It's unfortunate that our gifts lack the power of speech. What a thrill would come to us if when the bright wrappings were removed, a gift could say—"I bring you Comfort, surcease from Toil, and weeks and months of Time to add to a long life made longer perhaps through my services." And with what grateful thoughts would we remember the donor of such a gift.

Such a speech might be made by an electrical ironer or iron; or a washing machine; or a vacuum cleaner. An electric range might say even more, for while it saves the labor of carrying wood, coal and ashes, it at the same time provides us with wholesome, properly cooked food.

The old saying, "A task well begun is half finished," applies particularly to the beginning of our days, our breakfasts. Here the electrical toaster, the coffee maker and the grill, enable a quick, comfortable meal with no running back and forth to the kitchen stove. They work just as effectively at other meals too. St. Nick couldn't choose more wisely in selecting our gifts.

And so it is down the long list of magical electric servants that bring more comfort, greater convenience, the elimination of hard work, and the saving of our time—the radios, the waffle irons, the heating pads, the curling irons, the kitchen mixing machines, the radiant heaters, the water systems, the hot water heaters, the refrigerators, the marvelous electric sewing machines, the electric fans and ventilators and many more.

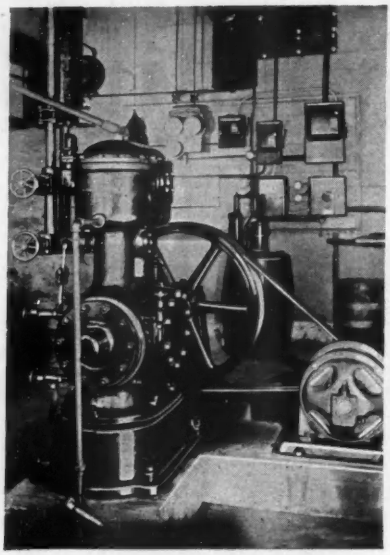
As electricity lights our homes and the gay colored bulbs on the Christmas tree, let us hope that it may be permitted to lighten the burdens of every-day life throughout the whole year.

By Wire

Best Wishes for a
Many Motored Christmas
Our job is smoothing things over for you
For that "stitch in time"
For coffee lovers everywhere
The only place where food gets cold reception
I'm better to cook with my dear

Experiences of a PRACTICAL FRUIT GROWER

By MEREDITH P. REED



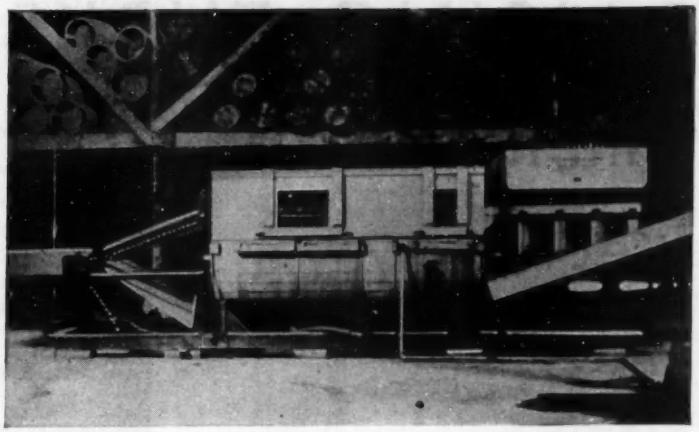
This motor and compressor cool 18,000 bushels of apples.

WE operate 350 acres of land, 260 of which are planted to apple orchard, the balance in nursery, pasture and roads. Our total power supply includes two teams, two tractors, (one Caterpilar Twenty and one 10-20 wheel tractor) and 89 H.P. in electric motors. Electricity lights the packing house, cold storage, barn, and residence.

Our electrical horsepower, a total of 89, is used as follows: for spraying 55 H.P., cold storage 16 H.P., pumping water 2½ H.P. (2 wells), cider press and emery 2 H.P., apple washer 12 H.P., apple grader 1½ H.P.

Two hundred ten acres of our orchard, all that are in bearing, are piped for stationary spraying. That is, we pump all the spray material from a central mixing plant through pipe lines so distributed that one man with 125 ft. of hose can spray about 1-3 acre from each hydrant. At this central mixing plant we use three pumps, delivering 130 gallons of material per minute at five to six hundred pounds pressure. Each pump is driven independently with an electric motor. Two of these pumps have been ample for our needs up to date but we have the third for an emergency, such as breakage or repairs, so as not to slow up the spraying in the orchard. Fourteen men operate this plant, twelve spraying, one mixing spray material and the foreman supervising the work. They can spray our 200 acres in from two to three days. It would require ten portable spray outfits, using two to three men each to cover the ground in a like time. The first cost of the stationary plant

Two spray pumps and 25-horsepower motor of stationary spray plant in use at Reed orchards.



Apple washer equipped with 10 H.P. motor used by W. C. Reed & Son, Vincennes, Ind.

is about the same as that of the portable sprayers, including cost of the teams. When one considers the feed, care and stable room for these teams which would have to stand idle ten months of the year, he can see that a very large item of expense has been eliminated.

During the past season this plant operated a total of 420 hours, to apply thirteen different sprays, using 766,000 gallons of material at a cost of $230.00 for electricity.

Operate Own Cold Storage Plant

We have our own cold storage house of 54,000 cubic feet capacity, holding 18,000 bushels of apples. It is refrigerated by a direct expansion ammonia coil system with a 15 H.P. motor. The operating cost for electricity is three to four cents per bushel for the storage season. Counting interest, depreciation, taxes, etc. the total cost does not exceed twelve cents per bushel, compared to a charge of 22 to 25 cents made by most commercial storages.

Last year when the crop was light, we held all our No. 2 and drop apples in storage until the picking season was over and our competitors had disposed of those grades at an average price of 75c per bushel including the baskets. We then sold the same grades in bulk at 85c to $1.25 per bushel, averaging about $1.00 or an increase of 40c per bushel, less the storage cost.

Fruit Washed Before Sorting

During the last few years restrictions placed on fruit bearing too much spray residue have made it necessary to wash apples with various materials to remove excess lead and arsenic. A number of commercial washers have been placed on the market, most of them electrically driven. Our own washer is driven by a 10 H.P. motor. We also use a pre-wash tank ahead of the regular washer; this is equipped with a 2 H.P. motor.

Two small motors run our fruit sizer, sorting and packing tables.

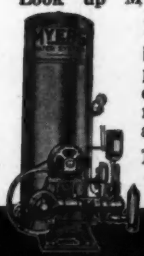
A very good source of profit indirectly traceable to the use of electricity is the manufacture and sale of fresh cider. During the past season we sold nearly 5,000 gallons of cider, but if we had been without refrigeration we could not possibly have sold over one-third of this amount and spoilage would have seriously eaten into our profits.

Our conclusions after the use of electricity for a number of years are that it is the most convenient, easiest and cheapest source of power that can be used. Its uses are so varied and adaptable to so many different situations that the grower who can not be so equipped is working under a material handicap.

Quality never before at Prices so Moderate

RUNNING WATER — YOUR FAMILY DESERVES IT

YOU have long been able to find plenty of water systems that had little to recommend them beyond price. But now you can buy genuine MYERS Water Systems—world leaders in quality and reliability—at prices that make the cheap "bargain offers" appear ridiculous. Look up MYERS prices; compare MYERS quality — and you will discover what a real buying opportunity MYERS presents today. Models for deep or shallow wells. Do not delay. Write for booklet and name of nearest dealer.



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MYERS WATER SYSTEMS

RAISING TURKEYS with the aid of Electricity

By D. W. RICE

Automatic electric battery brooders on the White farm, showing ultra-violet lamps in background between the brooder tiers.

ELECTRICITY has been successfully put to work in the raising of turkeys on the farm of Mr. Harry White, near Canonsburg, Pa. Approximately 3000 turkey poults have been raised to date with exceptionally low mortality. It has always ben an accepted fact that the successful raising of young turkeys was one of the hardest jobs in the poultry industry; for, during the first eight weeks, the turkey poults are extremely susceptible ot sickness and disease. At this time they require ideal conditions, careful attention and feeding.

All of the brooding from the time the birds were one day old until ready for range, has been done on the White farm with electric battery brooders. These brooders consist of a vertical battery of six decks. Each individual deck has a heat element of 150 watt capacity, or a total wattage per battery brooder of 900 watts. Each deck is thermostatically controlled so that a constant even temperature is maintained.

Day-old poults are placed in the brooder, approximately 75 per deck, and are kept within the wire-floored enclosure until their growth necessitates their being moved. It has proven that turkey poults can be kept in the battery brooders for three or four weeks without subjecting the birds to crowding. The poults are ready for the range shelter at three weeks of age, providing the weather is suitable.

Meters are installed to record the actual KWH consumption of the brooders. The readings of the KWH consumption of the four electric battery brooders were as follows:

May 26th—(1 elec. brooder in operation)—43 KWH.
June 23rd—(3 elec. battery brooders in operation)—398 KWH.
July 20th—(4 elec. battery brooders in operation)—617 KWH (total).

Mr. White states that employing electric battery brooders for raising turkey poults is more economical and insures better results than his former

Turkey poults on alfalfa range. These birds were electrically brooded and received ultra-violet radiation.

method of brooding. He stresses the saving in labor and the elimination of fire hazards.

Ultra-violet lights were installed for the irradiation of the poults at the commencement of the brooding season.

Tests were conducted to determine the practicability of replacing cod liver oil with ultra-violet radiation for vitamin "D." Three G-1 ultra-violet lamps with aluminum reflectors were operated in series with a reactance coil. These units were mounted on a 5 foot board at spacings of about 16 inches apart, and the board was suspended vertically from the ceiling so that the ultra-violet light would be thrown directly into the brooder decks.

Tests Determine Lamp Placement

The first test made, with the ultra-violet lighting placed two feet away from the birds, and a dosage of two hours a day given, showed a much heavier mortality in the irradiated birds than among a group fed cod liver oil alone. They were also more uneven in size. This was evidence that the birds had not received sufficient ultra-violet doses and consequently their health was impaired.

The doses were increased in the ensuing test run by reducing the distance from the ultra-violet source to the birds by one foot, plus an increase of length of burning hours from two to three hours a day. Two consecutive tests were run with the above correction in ultra-violet radiation and at the end of two weeks, the two flocks, one fed cod liver oil and the other irradiated, were extremely low in mortality. They were even in size and in no way could a difference be detected between the cod liver oil fed birds and the irradiated birds.

Pleased With Ultra-Violet Lighting

The cost of operation of the three G-1 ultra-violet lamps, during this two-week test was 10 cents, including charge for renewal cost of lamps. The cost of cod liver oil for the competing flock was 18½ cents for the same period.

Mr. White is pleased with the results he obtained with ultra-violet lighting. He states that he is convinced that it is the most economical method of supplying vitamin "D." He also says that the birds seem to derive a great deal of pleasure from the warm rays of the light.

Running the Range Right

(*Continued from page 7*)

gives me time for other things that I wish to do while the meal is cooking,—and it is ideal for oven canning."

But both of these women could have told you,

There is economy in using the thrift cooker at the back for long slow cooking.

too, that you do not get all of the convenience, all of the economy, nor all of the speed out of your electric range unless you run it right.

Take this matter of speed, for instance. Every woman knows that the time for cooking a vegetable or cake or a pan of biscuits depends on the requirements of that particular food no matter what fuel you have. Unless you are using a pressure cooker, that cooking time is a fairly constant thing, varying as the amount of food varies, changing from one household to another as personal taste dictates rare or well done.

If you put your vegetables on with just a little water, they will steam just as fast as they will

Running water permits bath tubs, indoor toilets, plenty of water in kitchen; protects against fire; gives you heavier live stock; increases yields of orchards, dairy and hen-house; helps avoid sickness; reduces labor.

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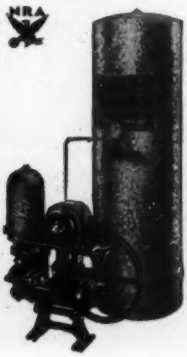
GOULDS PUMPS, Inc. Seneca Falls, N. Y.

GOULDS



cook. Most vegetables can be cooked in steam, though some authorities prefer the old way for cabbage and cauliflower. It takes just a few minutes to start a cup of water steaming when your burner is on high. But if you were to follow the method your grandmother used and drop chunks of potato into a kettle three-quarters full of boiling water, you would have to wait for that water to come to a boil before you could begin the cooking.

Worse than the waiting, when the cooking was over, you would be throwing out with the water quite a considerable amount of the food value of the vegetable you have been boiling so hard. Steaming instead of boiling them gives them better texture, better flavor, and better color, too. So while you may start out to hurry the cooking, you will end up with a better product, and by keeping much more of the food value of your vegetables for your family rather than drawing it off in a pail for the pigs.

You make sure of your speed, in another way, by using the right burner for the job. If you are cooking large amounts of food, or if you want quick intense heat for frying, you will select the big burner with the largest wattage. You had better watch your kettles, too. Foods heat quicker when your pans are flat on the bottom, touching the burner all the way across, so all the heat goes into cooking the food, not heating the air.

Put Every Kilowatt to Work and Economize in Cooking

To get the full economy of cooking with electricity, you have to understand how to make every kilowatt do useful work. When you stop to think about it, this cooking vegetables with a small amount of water has its penny saving angle for fuel as well as food values. It is plain enough that it is going to take less current to heat a cup of water than two or three quarts. Once the boiling point is reached, the burner can be turned to low, taking just one-fourth the full wattage of the burner, and keeping the liquid boiling just as steadily. Keeping the switch on high cannot raise the temperature inside that kettle by a single degree, nor can it hasten the cooking by a minute. Leaving it there just wastes your fuel.

Because there is sufficient heat stored in the coils of a cooking unit to keep foods boiling some time after the current is turned off, it is possible to make the fuel go a long ways. The differing construction of different ranges makes this time vary, but anyone can quickly find out what it is for her own range. Cooking on this retained heat is part of the economy of a fuel you can turn on to heat the bottom of your kettle just long enough to cook the potatoes.

There is economy in using the thrift cooker in its deep, insulated well for dishes that want long, slow cooking or for sterilizing the baby's bottles. There is economy in filling the oven when you are cooking the roast, and in using up the heat after baking to cook a pan of apples, some dried fruit, or the breakfast cereal.

Proof Depends on Your Management

If you are alert, you are taking advantage of all these possibilities for saving and so proving beyond any budgetary doubt that electric cooking is economical.

The controls of an electric range are delicately and accurately made to manage your fire for you whether you are in the kitchen or not. The thermostat that guards the heat in the oven turns the current on and off so accurately that it uses just enough to keep the temperature you want, 350 degrees, or 400 degrees,—but not one kilowatt more.

To get the full convenience of your range, you must rely on these accurate controls. When you stop peeking at your cakes, and basting your roasts, and cook by the time and temperature your recipes require, in short, when you learn to let the range do everything for you it can, you will set free more of your time and energy, you will speed up your baking, and you will make the most economical use of your fuel.

There is greater speed, there is greater convenience, there is more economy in running the range right.

Mrs. Hinnen can put her dinner in the oven, set the clock to turn on the current at four, and come back from a club meeting at five minutes to six and find her dinner ready to serve.

ELECTRICAL HOUSEKEEPING

Conducted by GAIL MEREDITH

FOR THAT SWEET TOOTH

REGARDLESS of what our dentist may say, it seems to be that most of us keep our sweet tooth all our lives. There is food for that tooth in these simple candies. They are easy to make for your own holiday feasting, or to pack in little boxes as gifts for your friends.

The first is called walnut creams. A friend of mine makes them so they fairly melt in your mouth, and this is the way she does it.

2 cups brown sugar
1 cup cream
nuts

Boil the sugar and cream until it makes a soft ball in water. Spread the nuts in the bottom of a shallow buttered dish. Pour the candy over them and beat until the mixture is creamy, but still soft enough to spread out smooth. Cut in squares.

Marshmallows

2 level tbsps. gelatine
1¼ cups water
2 cups sugar
Few grains salt
1 tsp. vanilla

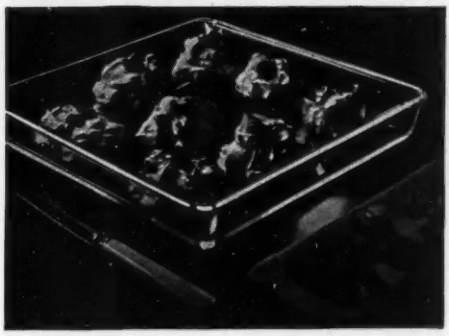
Soak the gelatine in one-half cup of cold water about five minutes. Put three-fourths cup water and the sugar in pan, bring to the boiling point, and let it boil until the syrup will spin a thread when dropped from the tip of a spoon. Add soaked gelatine and let stand until partially cooled, or pour the mixture into one of the bowls of your electric mixer if you are going to beat this candy with a motor. When it is partly cool, add salt and flavoring. Beat until candy is white and thick. Pour into pans thickly dusted with powdered sugar, having the mixture one inch thick. Chill thoroughly. Turn on board, cut in cubes and roll in powdered sugar.

You can add nuts to this candy; you can roll the cubes in grated cocoanut; or you can stuff them into dates or prunes if you want a variety.

For the hard candies the children love to crunch, there is nothing better than English toffee. This takes

2 cups brown sugar
3 tbsps. corn syrup
¼ tsp. salt
1-1/3 cups sweetened condensed milk
1 tbsp. butter
1 tsp. vanilla

Mix brown sugar, corn syrup, salt, and the sweetened condensed milk,—1 can, in some brands,—and butter together in heavy saucepan or skillet. Gradually bring to boiling point, stirring constantly. Cook on low and stir constantly, until mixture reaches 212 degrees or makes a firm ball when tested in cold water. This takes about 30 minutes cooking. Remove from fire and add vanilla. Pour into buttered dish.



Watch Dogs

By Alice C. Hoffman

My grandsire kept a watch-dog grim.
(The neighbors all were 'fraid of him.)
And grandad always feared he might
Get nasty, turn on him and bite.
He fed him pounds and pounds of meat,
He kept his kennel clean and sweet.
And in return for grandad's care
His dog made prowlers all beware.

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ON THE AIR

Conducted by James J. Hagey

Tells How He Wrote Favorite Song

HOW one of your favorite songs happened to be written was told recently by Victor Young its author. Not long ago, Young, who is heard frequently as an orchestra conductor on the air, told about writing "Sweet Sue."

Reed Brown, Jr., left, Helen Claire, and John Griggs in costume for the drama of Civil War days, Roses and Drums. Roses and Drums, now dealing with the fourth year of the war, is in its own third year on the air.

"I had written a floor show for an organization in Chicago," explained Young. "When I telephoned the manager for my check he asked me to call for it the following night. So the next night I took my car and drove over.

"On the way a melodic strain suddenly came to me, one which I couldn't dismiss from my mind. I stopped the car under a lamp post and wrote the basic melody on the back of an envelope thinking I might develop it some day. I then continued on my way.

"Finding on my arrival that the manager wasn't in yet, and that the melody still lingered, I asked the conductor of the orchestra there for some manuscript paper. He gave me some, and then and there I wrote the full and regular piano part of the song. Being told I might have to wait another hour, and still being full of inspiration, I wrote the orchestra parts for 'Sweet Sue.'

"Anxious to hear the song played, I asked the band there to play it. They did, and for the remaining two hours 'Sweet Sue' was almost the only song the orchestra played for the audience whistled it on the floor and kept requesting it until closing time."

• • •

Lanny Ross and Log Cabin Orchestra

IF the star can't come to the show, the show goes to the star.

And that's just what happened when Lanny Ross, famous radio tenor, and his Log Cabin orchestra, launched their new series of programs over NBC stations last month.

Originally, Lanny Ross was scheduled to make his bow from the New York studios, but work with motion pictures detained him in California, so the program is going on the air from there.

• • •

Fathers Hear Babies First Time on Air

THE fathers of Marie Byrd Carbone, aged 6 months, and Joseph Byrd Pelter, aged 8 months, heard their babies for the first time when "crib-side" broadcast relayed their cries and gurgles to Little America during a recent broadcast to and from the Byrd Antarctic expedition. The proud fathers left for the frozen Antarctic wastes before their youngsters were born.

Marie, the daughter of Alphonse Carbone, "spoke" into the microphone and over CBS stations from her crib in Massachusetts, and Joe Pelter presented his part of the program from the nursery in Pensacola, Florida. Mrs. Pelter believes that the radio equipment was unnecessary because her youngster's lungs are so healthy she is certain his howls can be heard as far away as Little America.

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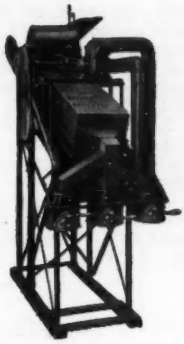
What's New

Reviewed by T. E. HIENTON

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request. Address your requests to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Corn Cutter

Some poultrymen, who do not feed all mash rations, prefer to feed shelled corn which has been broken or cut into several particles. Corn cut, broken or ground is usually fed to growing chicks after they are well started at two to three weeks of age and continued until they are 10 or 11 weeks old.



Corn Cutter

The manufacturer of a well-known line of hammer feed grinders, including several models for individual farm use with electric power, has developed a machine which may be used at slow speed as a corn cutter and at high speed as a feed grinder. The corn cutter produces three top grades of cut corn, besides the meal and the bran and dust. The bran and dust are removed from the top grades by an aspirator which is discharged from the blower fan into a bag.

The cutter is made in two sizes, a junior model for drive by 3-horsepower and the senior by a 5-horsepower electric motor. Both cutters are equipped with a jack shaft so that the cutter head can be run at either 1200 r.p.m. for handling cut corn or can be speeded up to 3000 r.p.m. for cracking wheat or grinding feeds.

Mike: "I haven't seen my Uncle Pat for ten years. Tell me what he's been doing all the time."
Ike: "Ten years."—Annapolis Log.

MOTOR IN HANDLE

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Useful Christmas Gifts!

Here's a list of electrical appliances that practically every farm can use to advantage. Most of them will make farm life richer as well as happier. Decide now to make this a practical Christmas by giving electrical presents. Investigate today! You can get much valuable information about cost to buy and operate from our advertisers. For any additional information, use the coupon at the bottom of this page.

FOR THE HOUSEHOLD

Ranges (*see advt., inside front cover*)—Refrigerators (*see advt., page* 15) — Clothes Washers — Vacuum Cleaners—Ironing Machines—Dishwashers—Flat Irons —Food Preparing Machines—Ice Cream Freezers—Sewing Machines — Table Cooking Appliances — Clocks—Range Replacement Units (*see advt., page* 16 *and inside front cover*)—Floor Polishers.

FOR WATER SUPPLY

Automatic Water Systems (*see advt., pages* 11, 13 *and* 15)—Water Heaters (*see advt., inside front cover*)—Controls (*see advt., page* 16).

FOR THE DAIRY

Milking Machines—Milk Coolers (*see advt., page* 11) —Cream Separators—Churns—Bottle Washers—Dairy Sterilizers — Clipping and Grooming Machines (*see advt., page* 17).

FOR POULTRY

Incubators — Brooders (*see advt., page* 15) — Time Switches — Drinking Fountain Warmers (*see advt., page* 15) — Ultraviolet Light Thermostats (*see advt., page* 16).

FOR REPAIR AND MAINTENANCE

Soldering Irons—Tool Grinders—Drills—Paint Sprayers —Woodworking Machinery—Motors.

MISCELLANEOUS

Feed Grinders—Ensilage Cutters—Corn Shellers—Hay Hoists — Feed Mixers — Stationary Spray Plants (*see advt., page* 11) — Burglar Alarms — Ventilators — Soil Heating Equipment—Insect Traps and Screens—Electric Fencing—Radio Sets—Sheep Shearing (*see advt., page* 17)—Light for Stimulating Plant Growth—Floodlights—Septic Tanks (*see advt., page* 15)—Bunch Tyer (*see advt., page* 16)—Vegetable Washer (*see advt., page* 16).

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. 12-34

Oh Say Can You See?

(*Continued from page 6*)

to 30 footcandles. You will be richly repaid in the ease and comfort of doing your work.

If your electric company has a lighting specialist, he or she will be glad to show you how to get the light you need in different rooms. That service is free. If you can't get the help of a specialist, you can figure out reasonable lighting for yourself.

As light spreads out in straight lines from the lamp, the amount of light that would fall on one square foot held one foot away will be spread over 4 square feet at 2 feet away, and over 9 square feet at a distance of 3 feet, and so on.

You see the intensity goes down pretty fast. It would not be practical to hold your book within

Twenty foot-candles on the page and no glare in the eyes.

a foot of the lamp, but when you hold it 7 feet away only 2% as much light falls on your page.

That is why it is very bad for children to study or even to read the funnies on the floor. A lamp that sheds 20 footcandles of light on the table may give only 4 on the floor.

Now, a 60 watt lamp gives about 80 foot candles if you are only a foot away. At 2 feet the same bulb gives about 20 footcandles. If your work is 3 feet from the lamp, you will get only 9 footcandles. If you need more light, put in a 100 watt bulb. That will give about 17 foot candles at a distance of 3 feet, or nearly 10 foot candles 4 feet away.

Do you think that using the larger bulb is too costly? An hour and a quarter of the additional light in your children's study lamp every school night for a month takes just one kilowatt hour of current and costs only as much as one candy bar.

So much for the amount of light. Since being able to see at all depends upon it, that is highly important. But that is not the only thing to consider. Let us go back to that problem of glare for a minute.

In judging lighting, most of us make the mistake of looking at the source of light instead of looking at the place that receives the light. We do not judge a well heated room by feeling of the stove. Yet a bare bulb may be quite as unsuitable for giving really good light in a room as a single glowing coal would be for heating it.

No room in the house or barn either should be lighted with bare bulbs. They defeat the very purpose for which we use them. Not because they are actually too bright in themselves, (if they were hanging out doors in bright sunlight, we'd hardly know they were turned on) but because they offer too great a contrast with the surroundings at night. A proper shade does not help the lamp produce more light, but it does help the eyes make better use of the light.

In the yard or barn or hen house good reflectors do make the lamps deliver more light where it is needed. They give better light for the same money or equal light for less electricity.

These reflectors in the barn should be of metal, white enameled on the inside. For the ordinary open ceiling they should be placed up between the joists so that the lower edge of the reflector is just even with the bottom of the joists. This will give the best distribution of light and keep the lamps out of the way.

Plenty of light throughout the barns will help you do your chores easier and better. Besides that, tests have proved that good light can save many hours of chore time during the year.

Properly lighting a well wired farm is just a problem of making the best use of equipment at hand and getting the biggest returns from money sent for current.

Questions and Answers

Question: *In selecting a title for your August contest, many contestants were at a loss to determine the sex of the young person at the water trough. We assumed it to be a girl, yet the first prize winner called it "a little man."*

Two of the other winners termed it a "daughter." Would you, in your next issue, let us know whether this little person was a boy or girl? Should she prove to be a girl, how does first prize winner call it a little man? And if it is a little man, how do the others win calling it the farmer's daughter"

MRS. S.

Answer: The photograph from which the cover illustration was made was supplied to the Editor without any indication of the sex of the child. Because of the uncertanty regarding this particular point, it was felt that those preparing titles for the Title Contest should be free to consider the subject of the picture either a girl or boy, as their own judgment might dictate.

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WHEN DA-LITE LIGHTS THE WAY EGGS ROLL IN. Let a Da-Lite Time Switch turn the lights on for you early in the morning. Longer daylight hours increase egg production. Price $4.95. Automatic Elec. Mfg. Co., Mankato, Minn.

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TO ENCOURAGE THE FURTHER USE OF ELECTRICITY

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OCTOBER COVER

COVER TITLE CONTEST

Awards for October

First Prize — $20

"The farmer's wife smiles more each day
For she knows "Watt" makes her chick-
ens lay."

MRS. W. H. SIEWERT, R.F.D. 1, Arlington, Wis.

Nine $2.00 Cash Prizes

"This smiling face just seems to say,
It's 'lectric lights that make hens lay."

AMY F. LUTZ, R.F.D. 1, Dallastown, Pa.

"If electric lights extend the day,
Happy hens will scratch and lay
When eggs are high, and a profit pay."

MRS. NANNIE B. PORTER, R.F.D. 1, Box 20, Ft. Collins, Colo.

"Sis brings in the egg baskets heaped up at night,
Since the hen house is lit with electric light."

MRS. GLEN BARTON, R.F.D. 3, Box 92-C, Puyallup, Wash.

"Extra hours with electric light;
Extra eggs to her delight."

MR. E. J. SCHMIDT, R.F.D. 4, Monona Drive, Madison, Wis.

" 'Gone electric,' friends will say.
Bess smiles, 'Sure, it's the profitable way.' "

MRS. MURRAY JOHNSON, 418 Harrison St., Petersburg, Va.

"Hurrah for good old electric rays,
The smile and the eggs show it pays."

MISS LOUISE KRAUSE, Frankfort, Ill.

"Heaping baskets and generous smile
Prove lighted laying house worth while."

MRS. A. W. RICE, R.F.D. 1, Cazenovia, N. Y.

"Baskets of eggs and a smiling Miss,
Electric lights are the cause of this."

SARA E. WILSON, R.F.D. 1, North East, Md.

"More hours for scratching, more hours to lay,
Heaping egg baskets; it's the electrical way."

HENRY DUEHMIG, R.F.D. 2, Avilla, Ind.

RULES
December Title Contest

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles need not be longer than 10 words — the shorter the better — and they do not have to rhyme.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, before January 1st.

Winning names and titles will be announced in the February issue.

Send your title on the coupon or make out a similar form on a plain sheet of paper or government postcard.

My title for the December Front Cover picture of ELECTRICITY ON THE FARM is.....

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(a) Are you going to use the F. H. A. plan for financing the purchase of new electrical equipment or improvements? ..... If yes, what equipment are you buying?.....

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